

Virginia Division of Consolidated Laboratory Services- Richmond, VA

**Total Chlorine by DPD Ferrous Titrimetric** **SM 4500-CI F- 2000 (2011)**

*ADDITIONAL QC REQUIREMENTS FOR THIS METHOD: Certified or Accredited laboratories using this method are assessed to applicable requirements of SM 1020 and SM 4020.*

Facility Name: \_\_\_\_\_ VELAP ID: \_\_\_\_\_

Assessor Name: \_\_\_\_\_ Analyst Name: \_\_\_\_\_ Inspection Date: \_\_\_\_\_

Relevant Aspect of Standards	Method Reference	Y	N	N/A	Comments
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Records Examined: SOP Number/ Revision/ Date \_\_\_\_\_ Analyst: \_\_\_\_\_

Sample ID: \_\_\_\_\_ Date of Sample Preparation: \_\_\_\_\_ Date of Analysis: \_\_\_\_\_

1) Are samples analyzed within 15 minutes of collection?	40CFR136.3 Table 1I				
2) Is DPD indicator stored in a brown glass-stoppered bottle in the dark and discarded when discolored?	4500-CI F.2.b				
3) If preparing ferrous ammonium sulfate (FAS) titrant, is the titer checked by adding 10 mL 1+5 H <sub>2</sub> SO <sub>4</sub> , 5 mL conc H <sub>3</sub> PO <sub>4</sub> , and 2 mL 0.1% barium diphenylamine sulfonate to 100 mL of FAS and then titrating with potassium dichromate to a violet endpoint that persists for 30 seconds?	4500-CI F.2.c				
4) Is potassium iodide solution stored in a brown glass-stoppered bottle and discarded when solution becomes yellow?	4500-CI F.2.e				
5) Is glycine solution stored under refrigeration and discarded if cloudiness developed?	4500-CI F.2.k				
6) Is 100 mL of sample used, or if total chlorine exceeds 5 mg/L, is a smaller sample used and diluted to 100 mL? <i>Mix usual volumes of buffer reagent and DPD with Del <u>before</u> adding sample and diluting to 100 mL.</i>	4500-CI F.3				
7) Are 5 mL of buffer reagent, 5 mL DPD indicator solution (or 500 mg DPD powder), and several small crystals of KI (~ 1 g) placed in titration flask and mixed, and then 100 mL sample added and mixed?	4500-CI F.3.a, 4500-CI F.3.a.4				
8) Is the sample then allowed to stand for two minutes?	4500-CI F.3.a.4				
9) Is the sample then titrated with standard FAS titrant until red color is discharged?	4500-CI F.3.a.4				
10) For total chlorine, is the result from this reading reported? <i>For a 100-mL sample, 1.00 mL standard FAS titrant = 1.00 mg Cl as Cl<sub>2</sub>/L.</i>	4500-CI F.4				

Notes/ Comments: \_\_\_\_\_